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DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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May 2, 2003

CERTIFIED RETURN RECEIPT
7099 3400 0016 8896 2277

Don Fullmer
Paradise Management, Inc.
905 North Main
Fillmore, Utah 84631

Re: Second Review of Notice of Intention to Commence Large Mining Operations, Paradise Management, Inc, Koosharem Mine, M/031/002, Piute County, Utah

Dear Mr. Fullmer:

The Division has completed a review of your draft Notice of Intention to Commence Large Mining Operations for the Koosharem mine, located in Piute County, Utah, which was received March 12, 2001. The Division suspended our review of this material until the Forest Service completed an Environmental Assessment (EA) for the project. Our attached comments are a combination of reviewing the materials that you have submitted, as well as the requirements outlined in the preferred alternative of the EA. These comments will need to be addressed before tentative approval may be granted. The comments are listed below under the applicable Minerals Rule heading. Please format your response in a similar fashion. Please provide a response to this review by June 1, 2003.

The Division will suspend further review of the large mine notice until your response to this letter is received. If you have any questions in this regard, please contact me, Lynn Kunzler, or Doug Jensen of the Minerals Staff. If you wish to arrange a meeting to sit down and discuss this review, please contact us at your earliest convenience. Thank you for your cooperation in completing this permitting action.

Sincerely,

D. Wayne Hedberg
Permit Supervisor
Minerals Regulatory Program

jb
Attachment: Review
cc: Stan Perkes, BLM
Steve Winslow, USFS
O:\M031-Piute\M0310002-Koosharem\final\REV2-05022003.doc

SECOND REVIEW OF NOTICE OF INTENTION
TO COMMENCE LARGE MINING OPERATIONS

Paradise Management, Inc.
Koosharem Mine

M/031/002
May 2, 2003

NOTE: *Comments in italic print are from the Division's first review of your original Notice of Intention.* Comments in normal print need to be addressed in your response to this review.

R647-4-105 - Maps, Drawings & Photographs

105.2 Surface facilities map
Please show locations of waste dumps; pits; highwalls; and the topsoil, overburden and ore stockpiles on the surface facilities map. (LK)

105.2 Surface facilities map
Until the surface facilities map containing the required information (see above) is received, further review of this portion of the plan is not possible. (DJ)

105.3 Drawings or Cross Sections (slopes, roads, pads, etc.)
Please provide north-south and east-west cross-sections of the proposed affected area, showing the existing surface contour profile, the post-mining surface contour profile, and the post reclamation surface contour profile. These cross-sections need to be drawn to a scale of 1"=50' for calculation purposes. (DJ)

105.3 Drawings or Cross Sections (slopes, roads, pads, etc.)
Until the requested cross-sections (see above) are received, further review of this portion of the plan is not possible. These cross-sections are needed to determine and calculate the final reclamation surety requirements. (DJ)

R647-4-106 - Operation Plan

106.4 Nature of materials mined, waste and estimated tonnages
Please provide an estimate of the amount of soil and overburden that will be generated during the life of the mine. An estimate of the volume of soil and overburden presently stored on the site is also required. (DJ)

106.4 Nature of materials mined, waste and estimated tonnages
Please refer to comments under R647-4-106.5. The soils investigation done on May 22, 2001, identified an estimated soil volume of 29,000 yd^3 that should be available for reclamation (13,000 yd^3 currently stockpiled and an estimated 16,000 yd^3 that can be salvaged from the 5- acre proposed expansion area). Will there be other overburden or waste materials generated from your operation that could be used as recontouring material and supplemental growth medium? If so, please provide the estimated volume of these materials. (DJ & LK)

106.5 Existing soil types, location, amount
The Division is uncertain how much topsoil is available for storage. A search of the correspondence files and original mine plan indicates a discrepancy in the depth of topsoil from 1-2 inches to 2-3 feet. The amount of salvageable topsoil will need to be verified by the operator during the next field season. (LK)

106.5 Existing soil types, location, amount

On May 22, 2001, soil resources were examined in conjunction with an on-site inspection for the EA. The volume of soil resources (topsoil or growth medium) currently stockpiled on site in the three stockpiles and the berms along the northeastern side was estimated to be 13,000 yd^3. Soil pits dug in the proposed expansion area identified 15-30 inches of topsoil (with an average of 2 feet) that is available for salvage. This depth will yield approximately 16,000 yd^3 of additional material that can be stockpiled for reclamation of the site. Given the variability of the soil depth, the Forest Service has requested that they be notified, before additional soil salvaging activities are conducted, so that they may be present to verify that all available soils are salvaged. This information needs to be incorporated into your application. (LK)

106.7 Existing vegetation - species and amount

We can find no record of a vegetation survey ever being completed for this site. A survey will need to be completed during the next growing season (June-July). This information is required to establish reclamation success standards and to fine-tune the revegetation plan. (LK)

106.7 Existing vegetation – Species and amount.

On May 22, 2001, a vegetation survey was conducted in conjunction with an on-site inspection for the EA. Results of this survey identified the common species that were assumed to be present in the current disturbed area (as well as those species found in the proposed expansion area). These species include: Mountain big sagebrush, snowberry, aspen, bitterbrush, yarrow, smooth brome, crested wheatgrass, sheep fescue and an unknown bluegrass. No threatened or endangered species are known to exist in the area. Vegetation ground cover ranged from 50 to 90 percent, with the average vegetation ground cover estimated at 72%. The revegetation success standard for the area (based on this information) will be 50.4% ground cover. This information needs to be incorporated into your Notice. (LK)

R647-4-107 - Operation Practices

107.1 Public safety & welfare

107.1.12 - Disposal of trash, scrap, debris

Please provide a description of how you will dispose of trash and associated mining-related debris generated at the site. (DJ)

107.1.12 - Disposal of trash, scrap, debris

The EA identifies that burial of trash at the site is unacceptable. Please modify your plan to remove all trash from the site and transport it to an appropriate disposal facility. (DJ)

107.1.14 - Posting warning signs

Warning signs should be posted at the entrance of the quarry and other public access points warning of the hazards associated with the site. Due to the relative flatness of the area where the quarry is located, please consider erecting a fence between the forest service road and quarry to help assure ATV users do not have access to the highwall area. (DJ & LK)

107.1.15 - Constructing berms, fences, etc. above highwalls

Because this area is a popular ATV recreation area, the EA requires fences, berms or other suitable barriers to be placed above highwalls to protect the public. (DJ & LK)

R647-4-110 - Reclamation Plan

110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed

The original NOI identified that all slopes, highwalls, etc. would be regraded to a slope of 20 degrees or less (approximately a 3h:1v slope). It is assumed that regrading of the site during final reclamation will follow the original NOI. Please advise if there is any change in this provision. (LK)

110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed

The original plan called for all slopes to be regraded to 3h:1v or flatter. This was because proving stability in clay highwalls at higher angles was not possible. Please note, the EA also requires that highwalls be eliminated and that slopes be regraded to 20 degrees or less (approximately a 3h:1v slope). (DJ & LK)

110.5 Revegetation planting program

Past revegetation efforts at the site have resulted in poor vegetation establishment. In reviewing past procedures, it appears that contributing factors to poor vegetation establishment include: several species in the seed mix are not well adapted to the site, lack of topsoil or properly amended substitute soil materials, and excessive slope angles (slopes were not reduced to 3h:1v or less). To remedy these problems, please consider the following:

1. *Use the revised attached seed mix for future revegetation efforts. Seeding should be done late fall, just prior to snowfall (please note, the recommended seed mix has been reviewed by the US Forest Service and is acceptable to them for reclamation of the site as well).*
2. *Apply 5 tons/acre of composted manure to all areas receiving 6 inches or more of topsoil at the time of reclamation, and 10 tons/acre on all areas receiving less than 6 inches of topsoil.*
3. *Regrade all slopes, highwalls, etc. to 3h:1v or flatter slope. Leave the final regraded surface as rough as possible. (LK)*

110.5 Revegetation planting program

1. The operator indicated that the proposed seed mix is acceptable.
2. While the application of composted manure may not have been identified per se in the original Notice, please note, the original notice was never approved. Based on the nature of the soil materials, the application of composed manure at the above rates is reasonable. The EA also identifies the need for, and requires the use of composted manure or mulch for revegetation. Current third party costs for delivery and spreading composted manure is $30.00 per ton. With approximately 29,000 yd^3 of soil that should be available for reclamation, there will be enough soil material to cover the entire reclaimed site at a depth of approximately 1- foot. Based on the recommended composting rate above, this will add $150.00 per acre to the cost of the reclamation surety. (LK)

R647-4-111 – Reclamation Practices

111.1 Public safety & welfare

1.12 Disposal of trash & debris

See comments under R647-4-107.1.12. (DJ)

1.15 Constructing berms/fences above highwalls

See comments under R647-4-107.1.15 and –110.2. (DJ)

111.5 Land capable of post mining land use

Wildlife habitat was a major consideration in developing the attached seed mix. As requested earlier, please indicate whether the attached seed mix is acceptable. (LK)

111.5 Land capable of post mining land use

Impact to wildlife habitat was identified as one of the major issues in the EA. While the area is not considered winter habitat, it is important summer range. Please correct statements to the contrary in your plan. (LK)

111.6 All slopes regraded to stable configuration

Assuming the original regrading plan will be followed (i.e., all slopes, highwalls, etc. will be regraded to a slope of 3h:1v or flatter), compliance with this rule is expected. (DJ)

111.6 All slopes regraded to stable configuration

See comments under R647-4-110.2. (DJ)

111.7 Highwalls stabilized at 45 degrees or less

That portion of the overburden presently stored at the site that will not be required for establishing a growth medium, should be used as backfill to reduce pit highwalls. (DJ)

111.7 Highwalls stabilized at 45 degrees or less

See comments under R647-4-110.2. (DJ)

111.12 Topsoil redistribution

Before this topic can be evaluated, the Division needs to know the present volume of stockpiled soil material and how much will be salvaged from the expansion area. As stated above, the file contains conflicting soil depth information ranging from an inch or two, to over 2 feet. This information will need to be verified by the operator during the next field season. (LK)

111.12 Topsoil redistribution

See comments under R647-4-106.5. Please describe how soil resources will be spread over the site, including the type of equipment to be used. (DJ & LK)

R647-4-112 - Variance

No variances were requested.

R647-4-113 – Surety

Before a final reclamation surety estimate can be calculated, the Division needs the technical information and plans requested in this review. (DJ)

Other Agency Coordination:

On December 2, 2002, the BLM mailed via certified mail, their requirements for your plan of operations and mineral lease. Plans submitted to the BLM need to be consistent with your response and the plan you file with the Division.

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